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ABSTRACT

Parent educational beliefs, behaviors, and values and family sociodemographic characteristics were analyzed to clarify antecedents of children's adaptation to school and academic achievement. Extensive parent interviews, test data, and teacher ratings during kindergarten, and achievement test scores during first grade, were collected for a sample of 130 children. Multiple regression analyses revealed substantial predictions of child adaptation and achievement during kindergarten and first grade from parent interview variables, from sociodemographic variables, and from the combined variables. Findings support interpretation of parent beliefs, behaviors and values as intervening variables between sociodemographic variables and child adaptation and achievement. (Author/JMB)

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Parent Interview and Sociodemographic Predictors of Adaptation and Achievement

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Both socioeconomic status variables and parent characteristics have been found to correlate significantly with child mental test scores and academic achievement (Hess, 1970). The initial goal of this study was to correlate parent educational attitudes, beliefs, behaviors and values and family sociodemographic variables with child adaptation and ability in kindergarten and to determine whether sociodemographic variables and parent characteristics are redundant or complementary predictors of child adaptation. The analysis of predictors of academic achievement was continued through multiple regression analyses of sociodemographic variables, maternal interview variables, mental test scores and teacher ratings during kindergarten as predictors of the child's reading scores at the end of first grade.

Design, Sample and Method

Eight children were chosen randomly, stratified by race and sex, from each of 28 kindergarten classrooms in eight urban and rural schools. Mothers of the children were interviewed in the fall of kindergarten with a Parent as Educator Interview (Schaefer and Edgerton, Note 1) that yielded data on conforming and self-directing values with a method adapted from Kohn (1969), on authoritarian and progressive educational attitudes and beliefs that was developed from earlier research by Brown (1968), and on parental educational behaviors of playing games, sharing activities, talking with the child, and of providing educational experiences in the home and community. During kindergarten the children were rated with a Classroom Behavior Inventory (Schaefer, Aaronson, and Edgerton, Note 2) that includes scales for verbal intelligence, curiosity/creativity, independence, task-orientation, extroversion and considerateness. The Test of Basic Experiences (Moss, 1970) (TOBE) General Concepts scale was administered in the fall and TOBE

Language and Mathematics scales in the spring. At the end of first grade scores on the Prescriptive Reading Inventory were collected from school records. Children from one school that had shown extremely high gains from kindergarten to first grade after participation in a special reading program and children with incomplete data including those who had moved or were retained in kindergarten, were dropped from these analyses. Data analyses were performed on the remaining sample of 62 white and 68 black subjects.

Mother's education, family income, and race were correlated with parent interview variables to determine relationships between sociodemographic variables and maternal characteristics. Mental test scores and teacher ratings were intercorrelated to determine relationships among child measures during kindergarten. Correlations were computed between the mother's socio-demographic and interview variables and child's test scores and teacher ratings. Multiple correlations were computed of the set of sociodemographic predictors, the set of interview predictors and the combined sets of predictors with the child variables collected from test scores and teacher ratings during kindergarten and reading scores in first grade. Finally, multiple correlations of the four sets of kindergarten variables, sociodemographic variables, parent interview data, child test scores, and teacher ratings with the child's reading score at the end of first grade were analyzed.

Results

Substantial correlations among the parent interview variables of parent behaviors, attitudes and values and substantial correlations of these maternal variables with mother's education, income and majority group status are reported in Table 1. The highest correlations are between the sociodemographic variables and the mother's report of talking with the child, of providing educational

experiences in the family and community, and of disagreement with authoritarian attitudes and beliefs about education and with conforming values for children. These findings replicate earlier research about correlations between socio-economic status and parental beliefs, behaviors, and values (Hess, 1970; Kohn, 1969). More detail on the content of the parent interview is reported in Table 2.

Correlations between tests of academic ability and teacher ratings of child academic competence, motivation, and adjustment are reported in Table 3. Teacher ratings of the child's verbal intelligence correlate as highly with the three subtests of the TOBE as the subtests correlate with one another. Also teacher ratings of verbal intelligence have a multiple correlation of .81 with the three TOBE subtests and each of the TOBE subtests have multiple correlations ranging from .72 to .78 with teacher ratings of classroom behavior. The TOBE subtests also have substantial correlations with teacher ratings of creativity/curiosity, independence, and task-orientation which might be interpreted as motivational variables, but lower correlations with social adjustment variables of extraversion and considerateness. Just as sociodemographic variables and parent interview variables are highly correlated indices of family environment, teacher ratings and test scores are highly correlated indices of the child's academic competence.

Simple and multiple correlations between parent variables and child variables are reported in Table 3. The highest correlations are between the parent variables of sharing activities, talking with the child, and providing educational experiences and the child variables of TOBE Language and General Concepts scores and teacher ratings of verbal intelligence. Authoritarian educational beliefs and conforming values for the child also show substantial negative correlations

with the child's verbal skills. The multiple correlations show that sociodemographic variables and parent interview variables both yield substantial prediction of the child's verbal skills but that the combined sets show somewhat higher prediction. The final column of Table 3 shows that the parent interview variables are somewhat better predictors of the child's first grade reading scores than the sociodemographic variables and that the multiple correlation for the combined predictors is equal to that for the parent interview variables alone. These data would support an interpretation of the parent interview variables as indices of parent characteristics that are intervening or mediating variables between the sociodemographic data and child characteristics.

Although the major focus of this analysis is upon the relationships of family sociodemographic variables and maternal variables with the child's academic competence, the data allowed the further analysis of prediction of the child's reading competence in first grade from four sets of data collected during the kindergarten year -- sociodemographic data, maternal interview data, mental test data, and teacher ratings. The second column of Table 3 shows the multiple correlation of the first grade reading scores with each of the four sets of predictors when that set is entered first, and the last two columns show the incremental prediction when that set of variables is entered last. Each set of predictors yields significant predictions of reading scores, with the highest predictions from the teacher ratings on the Classroom Behavior Inventory ($r = .72$), followed by the TOBE scales ($r = .68$), then by the Parent as Educator Interview variables ($r = .60$), and finally the sociodemographic variables ($r = .49$). When added last, only the teacher ratings and interview variables contribute significantly to the total multiple correlation of .79 for the total sample. A

more robust estimate of the correlation between combined sets of predictors and the child's first grade reading score of .74 was computed by summing of equal weights of each of the 19 normalized predictor variables. Separate analyses of the white and black samples show similar correlations, but with better predictions for the white sample and with lower levels of significance for the smaller subsamples. These findings that the child's reading score at the end of first grade is highly predictable from child and parent characteristics during kindergarten are supported by findings of the predictability of the child's grade placement ten years later from child characteristics at school entrance (Agrawal, Kellam, Klein and Turner, 1978).

Discussion and Summary

Both sociodemographic and maternal interview variables are significantly correlated with the child's verbal skills in kindergarten and reading skills at the end of first grade. Parent interview variables add significantly to a multiple correlation of parent and child variables with reading scores even when entered after sociodemographic variables, child mental test scores, and teacher ratings. Maternal interview variables might be interpreted as indices of intervening or mediating variables between sociodemographic variables and the child's verbal skills. Although the prediction of the child's reading skills from maternal variables is high, research on fathers suggests that the prediction might be increased by data from the child's father, parent surrogates, or other caretakers (Biller, 1974; Lamb, 1978).

Findings that maternal reports of sharing educational experiences in the home, of providing educational experiences in the community, and of maternal attitudes, beliefs, and values are related to the child's language skills might contribute to the development of objectives in early intervention. Both the

Parent as Educator Interview and the Classroom Behavior Inventory might contribute to the identification of families and children that could profit from early intervention and might contribute to evaluation of the effects of educational intervention upon parents and children.

Reference Notes

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TABLE 1
Correlations Among Parent Interview and Demographic Variables
N=140 Kindergarten Children

Sociodemographic Variables	Sociodemographic			Parent Activities with Child				Attitudes and Values			
	Mothers Education	Income	Race	Playing Games	Sharing Activities	Talking	Providing Educational Experiences	Authoritarian	Conforming	Progressive	Self-directing
Mothers Education	—	50**[1]	10	20*	29**	28**	42**	-54**	-45**	25*	40*
Income		—	41**	20*	27**	41**	48**	-48**	-39**	14	32**
Race			—	23*	30**	47**	53**	-27**	-48**	17	34**
Parent Interview Variables											
Playing Games				—	52**	36**	33**	-15	-14	31**	13
Sharing Activities					—	48**	43**	-20*	-29**	34**	19
Talking						—	47**	-26*	-31**	29**	17
Providing Educa. Experiences							—	-44**	-38**	32**	29**
Authoritarian								—	52**	-14	-43**
Conforming									—	-34**	-86**
Progressive										—	32**
Self-directing											—

Significance: * < .01
** < .001

[1] NOTE: Decimal points omitted

Table 2
Examples of Variables from Parent as Educator Interview

Sharing Activities

Reading books and magazines
Working with plants and gardens
Cooking

Talking about subjects that expand the child's outlook

Mother's friends and interests
What mother did when she was a child
The world of nature

Providing Educational Experiences

Owning books
Going to library or bookmobile
Organized activities (e.g., Sunday School, sports, recreation program, day care or nursery school)

Authoritarian Attitudes

Children are born bad
Children should be treated uniformly
Teacher's authority is absolute

Conforming Values

Neatness
Cleanliness
Politeness to adults

Progressive Attitudes

Encouraging imagination and playfulness
Encouraging verbalization of ideas
Children learn actively

Self-directing values for child

Thinking for himself
Responsibility for his own work
Interest in why and how things happen

Table 3
Simple and Multiple Correlations of TOBE Tests with Classroom Behavior Inventory Ratings
N=130 Kindergarten Children

	SIMPLE CORRELATIONS								
	TOBE			Teacher Ratings					
TOBE Subscales	Math	Language	General Concepts	Intelligence	Creativity Curiosity	Independence	Task Orientation	Extraversion	Considerateness
Math	—	69**[1]	65**	68**	56**	58**	57**	37**	24*
Language		—	70**	73**	61**	60**	57**	39**	21*
General Concepts			—	74**	62**	55**	54**	41**	26*
CBI Scales									
Intelligence				—	83**	66**	73**	64**	35**
Creativity/ Curiosity					—	59**	65**	81**	28**
Independence						—	56**	44**	26*
Task Orientation							—	55**	56**
Extraversion								—	25*
Considerateness									—
MULTIPLE CORRELATIONS									
CBI predictors	72**	78**	76**						
TOBE predictors				81**	68**	66**	65**	45**	28*

Significance: * <.01
** <.001

1 NOTE: DECIMAL POINTS OMITTED

Table 4
Simple and Multiple Correlations of Parent and Demographic Variables with Test Scores and Classroom Behavior Inventory Ratings
N=130 Kindergarten Children and Mothers

SIMPLE CORRELATIONS	TOBE			Teacher Ratings						
Sociodemographic Variables	Math	Language	General Concepts	Intelligence	Creativity Curiosity	Independence	Task Orientation	Extraversion	Considerateness	First Grade Reading Achievement
Mother's Education	24*[1]	36**	38**	36**	29**	24*	18	20	03	38**
Income	24*	37**	34**	34**	20	21*	09	16	07	30**
Race	46**	48**	49**	49**	36**	33**	29**	17	29	35**
Parent Interview Variables										
Playing Games	15	37**	25*	25*	22*	17	18	13	13	33**
Sharing Activities	29**	41**	33**	33**	28**	34**	14	18	00	36**
Talking	30**	46**	42**	44**	36**	26**	23*	28**	08	35**
Providing Educa. Experiences	45**	51**	52**	53**	37**	37**	23*	25*	19	50**
Authoritarian	-27**	-36**	-45**	-39**	-28**	-21*	-13	-18	-07	-34**
Conforming	-28**	-34**	-38**	-38**	-33**	-36**	-11	-16	-12	-44**
Progressive	21*	28**	24*	25*	18	27**	09	11	02	34**
Self-directing	23*	24*	26**	32**	31**	27**	13	21*	10	34**
MULTIPLE CORRELATIONS										
3 Sociodemographic alone	51**	58**	60**	59**	45**	39**	34*	25	29	49**
8 Interview variables alone	48**	62**	62**	61**	48**	48**	30	37	27	60**
11 Together	55**	65**	66**	64**	52**	49**	40	37	35	60**

Significance: * <.01
** <.001

[1]NOTE: Decimal points omitted

TABLE 5

Multiple Correlations for Four Sets of Predictors of First Grade Reading Scores

TOTAL SAMPLE (N=130)	Number of Variables	Multiple r for each set when entered first	r^2	p	Increment to r^2 from each set when added last	p
Sets:						
Sociodemographic	3	49[1]	24	001	01	NS
Parent as Educator Interview	8	60	36	001	06	05
TOBE subtests	3	69	48	001	02	NS
Classroom Behavior Inventory	5	72	52	001	08	001
Multiple correlation for total set	19	79	63	001		
Correlation with equal weighting of total set	19	74				
WHITE SUBSAMPLE (N=62)						
Sets:						
Sociodemographic	2	48	23	001	01	NS
Parent as Educator Interview	8	63	39	001	08	NS
TOBE subscales	3	68	46	001	02	NS
Classroom Behavior Inventory	5	75	56	001	14	01
Total	18	84	70	001		
BLACK SUBSAMPLE (N=68)						
Sets:						
Sociodemographic	2	28	08	NS	00	NS
Parent as Educator Interview	8	50	25	05	12	NS
TOBE Subscales	3	61	37	001	04	NS
Classroom Behavior Inventory	5	65	42	001	05	NS
Total	18	77	56	001		

[1] NOTE: Decimal points omitted